

REMARKS

This application has been reviewed in light of the Office Action dated April 28, 2005. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the objections and rejections set forth in the Office Action are respectfully requested.

Claims 1 and 2 are pending. Claim 3 has been cancelled herein without prejudice or disclaimer of subject matter. Claim 1 has been amended. Support for the claim changes can be found in the original disclosure, and therefore no new matter has been added. Claim 1 is the sole independent claim.

Applicants note with appreciation that Claim 2 has been indicated as allowable if rewritten to include all of the limitations of base Claim 1. Claim 2 has not been so rewritten because, for the reasons set forth below, its base claim is believed allowable.

The drawings were objected to on formal grounds. Specifically, it was alleged that certain features recited in Claim 3 were not shown in the drawings. Without conceding the propriety of this objection, Claim 3 has been cancelled. Accordingly, this objection is moot.

Claim 1 was objected to due to an informality. Claim 1 has been amended accordingly. Withdrawal of this objection is respectfully requested.

Claims 1 and 3 were rejected for obviousness-type double patenting over Claims 1 and 2 of U.S. Patent No. 6,582,069 (*Ohashi et al.*). Claims 1 and 3 were also rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,557,989 (*Hirosawa et al.*). Since

Claim 3 has been cancelled, the rejections of that claim are moot. In response to the rejection of Claim 1, Applicants respectfully submit the following remarks.

Independent Claim 1 is directed to an ink jet recording head comprising a recording head unit having one or plural discharge ports for discharging one or plural kinds of liquids, a tank holder unit to which one or plural tanks for containing the one or plural kinds of liquids discharged at the recording head unit are mounted, a liquid supply path formed in the tank holder unit and adapted to supply the liquid contained in the tank mounted to the tank holder unit to the recording head unit, a liquid supply port communicated with the liquid supply path and provided to a flow path forming member, and a buffer chamber provided to the flow path forming member, the buffer chamber having a communication path connected with the liquid supply port and having no branch, and the buffer chamber having an opening portion provided to an extension of the communication path. The opening portion is closed by joining the recording head unit to the tank holder unit.

As examples of features recited in Claim 1, element 5 may be cited as a recording head unit, element 4 as a tank holder unit, elements 1A and 1B as forming a liquid supply path, element 1 as a flow path forming member, element 1d as a liquid supply port, element 20 as a buffer chamber, element 21 as a communication path, and element 1e as an opening portion (see, e.g., Figs. 1-3). Of course, the detail of the figures is not to be taken as limiting the scope of the claims.

By virtue of the arrangement set forth in Claim 1, the problem of meniscus vibration generated following liquid discharge can be suppressed by absorption of pressure in the buffer

chamber, while the buffer chamber can be properly washed and dried, preventing foreign matter, such as may accumulate during manufacture, from clogging discharge portions of a recording head.

In regard to *Ohashi et al.*, the Office Action cites claims 1 and 2 thereof as teaching a recording head unit, a tank holder unit, a liquid supply path and a buffer chamber. However, nothing in the claims of *Ohashi et al.* includes at least a liquid supply port communicated with a liquid supply path and provided to a flow path forming member, a buffer chamber provided to the flow path forming member, the buffer chamber having a communication path connected with the liquid supply port and having no branch, the buffer chamber having an opening portion provided to an extension of the communication path, or the opening portion being closed by joining a recording head unit to a tank holder unit. Further, Applicants' independent Claim 1 is submitted not to be obvious from the claims of *Ohashi et al.* For at least these reasons, Claim 1 is believed allowable over the claims of *Ohashi et al.*

Hirosawa et al. relates to a print head and an ink jet printing apparatus. In the *Hirosawa et al.* device, a tank holder unit is provided with a tank holder 1500, flow passage forming member 1600, filter 1700 and seal rubber 1800. A recording element unit is provided with an electric wiring board 1300, a print element substrate 1100, a first plate 1200 and a second plate 1400 (see, e.g., col. 11, line 38 - col. 12, line 17). Air chambers 7a and communication paths 9a (cited by the Office Action as "buffer chambers") are provided in print element substrate 1100 or first plate 1200, not in flow passage forming member 1600 (see, e.g., Figs. 5 and 11). In

addition, the air chambers 7a and communication paths 9a are not opened in the print element substrate 1100 or the first plate 1200 (see, e.g., Fig. 11).

In contrast to the arrangement of *Hirosawa et al.*, Applicants' independent Claim 1 recites that a buffer chamber is provided to a flow path forming member. In addition, Claim 1 recites that the buffer chamber has an opening portion that is closed by joining a recording head unit to a tank holder unit. Nothing in *Hirosawa et al.* is understood to teach or suggest at least these recitations of Claim 1. For at least these reasons, it is submitted that *Hirosawa et al.* does not contain all of the elements of independent Claim 1. Accordingly, Claim 1 is believed allowable over *Hirosawa et al.*

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against independent Claim 1. That claim is therefore believed patentable over the art of record.

Claim 2 is dependent from independent Claim 1 and is therefore believed patentable for at least the same reasons. Since Claim 2 is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of Claim 2 on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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